

### **REMARKS/ARGUMENTS**

Applicant acknowledges receipt of the Office Action dated April 29, 2010 in which Examiner: **1)** allowed claims 1-4, 10-16, 18-20, 23-30, 32-33, 35-39, 41-44, 46-47, 49-50, 66-70, 72-77 and **2)** rejected claim 51 under 35 U.S.C. §102 (b)/ 35 U.S.C. §103(a) as being anticipated/obvious by *Boitiaux* (U.S. Patent No. 4,490,481); and **3)** objected to 52-65 is objected to as depending from a rejected base claim.

#### **Status of the Claims**

Claims 1-4, 6, 10-16, 18- 20, 23-30, 32-33, 35-39, 41-44, 45-44, 49-77, and 112-119 are currently pending. Claims 1, 14, 37, 51, 66, and 112 are independent claims from all other pending claims depend directly or indirectly.

#### **Rejection of Claim 52 – 35 U.S.C. § 102(b)/103(a)**

The Examiner rejects claim 51, under 35 U.S.C. 102(b)/103(b) as being anticipated and/or obvious under *Boitiaux* (U.S. Patent No. 4,490,481). Applicants traverse this rejection.

Specifically, the Examiner disregards the structure implied by product-by-process limitations of the prior art in comparison to the instant claims. MPEP 2113 states that the product-by-process claims are not limited to the manipulations of the recited steps, *only the structure implied by the steps*, especially where the product can only be defined by the process steps by which the product is made (*In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979), emphasis added). As *Boitiaux* discloses a catalyst formed by sequential steps of metallic deposition and reduction of each metal after deposition, the process defines the catalyst structure. *Boitiaux* discloses a catalyst with the structure, from inner to outer layer, as: support, reduced palladium, and reduced gold as the outer layer (Col 3, lines 31-33, 42-47, claims 1, 11.) As such, *Boitiaux* fails to disclose any alternative product-by-process, and therefore fails to exclude a reduced metal layer. As the catalytic arts are acknowledged to be inherently unpredictable, the product-by-process of *Boitiaux* can not anticipate or render the instant claims *prima facie obvious*.

Further, Example 6 of *Boitiaux* clearly demonstrates the prior art catalyst, having a different structure as described previously, is not inherently capable of performing the limitation:

“having a single-pass conversion  $S_c$  of at least 90% in liquid-phase hydrogenation of acetylene,”

as found in instant claim 51. Specifically, 0.5 wt% (5000ppm) acetylene in ethylene is introduced to the reaction. In the product 700 ppm acetylene remains and this correlates acetylene remainder to an 86% conversion<sup>1</sup>. As such claim 51 and claims 52-65 depending therefrom are submitted to be patentable over *Boitiaux*.

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<sup>1</sup>  $[(5000\text{ppm} - 700\text{ppm}) / (5000\text{ppm})] = 0.86$

#### **IV. Conclusion**

Applicants submit that pending claims 1-4, 6, 10-16, 18- 20, 23-30, 32-33, 35-39, 41-44, 45-44, 49-77, and 112-119, are in condition for allowance, and respectfully request a Notice of Allowance.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art that have yet to be raised, but which may be raised in the future.

If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore. The Commissioner is authorized to charge any additional fees incurred in this application to Deposit Account No. 03-2769 of Conley Rose, P.C., Houston, Texas.

If the Examiner has questions or comments regarding this communication or feels that a telephone conference would advance prosecution of this case, the Examiner is warmly solicited to contact the undersigned at the earliest convenience.

Respectfully submitted,

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